

In the Claims:

Please cancel claims 20-43, 45, and 47-69, the claims withdrawn from prosecution due to a Restriction Requirement, without prejudice to Applicants.

1. (Currently amended) An isolated or recombinant nucleic acid comprising a nucleic acid sequence having at least 95% sequence identity to SEQ ID NO:1, wherein the isolated or recombinant nucleic acid encodes a polypeptide including therein at least one of: (1) a domain having the function of the BIR1 domain and (2) a domain having the function of the RING domain, the polypeptide inhibiting the activity of a caspase.

2. (Original) The isolated or recombinant nucleic acid of claim 1, wherein the nucleic acid encodes a polypeptide capable of inhibiting apoptosis in insect cells.

3. (Original) The isolated or recombinant nucleic acid of claim 1, wherein the nucleic acid encodes a polypeptide capable of inhibiting apoptosis in *Spodoptera frugiperda* or *Bombyx mori* cells.

4. (Original) The isolated or recombinant nucleic acid of claim 1, wherein the nucleic acid encodes a polypeptide capable of inhibiting apoptosis in mammalian cells.

5. (Original) The isolated or recombinant nucleic acid of claim 1, wherein the nucleic acid encodes a polypeptide capable of inhibiting apoptosis in plant cells.

6. (Original) The isolated or recombinant nucleic acid of claim 1, wherein the nucleic acid encodes a polypeptide capable of inhibiting caspase 9.

7. (Original) An isolated or recombinant nucleic acid encoding a polypeptide having a sequence as set forth in SEQ ID NO:2.

8. (Original) An isolated or recombinant nucleic acid comprising a nucleic acid sequence as set forth in SEQ ID NO: 1.

9. (Currently amended) An expression cassette comprising at least one nucleic acid operably linked to a promoter, wherein the nucleic acid comprises a sequence having at 95% sequence identity to SEQ ID NO: 1, wherein the nucleic acid encodes a polypeptide including therein at least one of: (1) a domain having the function of the BIR1 domain and (2) a domain having the function of the RING domain, the polypeptide inhibiting the activity of a caspase.

10. (Original) The expression cassette of claim 9, wherein the promoter is a constitutive or inducible promoter.

11. (Original) The expression cassette of claim 9, wherein the promoter is a developmentally regulated or a tissue specific promoter.

12. (Original) The expression cassette of claim 9, wherein the nucleic acid encodes a polypeptide having a sequence as set forth in SEQ ID NO:2.

13. (Currently amended) A transformed cell comprising a nucleic acid sequence having at least 95% sequence identity to SEQ ID NO:1, wherein the nucleic acid encodes a polypeptide including therein at least one of: (1) a domain having the function of the BIR1 domain and (2) a domain having the function of the RING domain, the polypeptide inhibiting the activity of a caspase.

14. (Original) The transformed cell of claim 13, wherein the cell is a mammalian cell.

15. (Original) The transformed cell of claim 13, wherein the cell is an insect cell.

16. (Currently amended) The transformed cell of claim 15, wherein the insect cell is a *Spodoptera frugiperda* cell or a *Bombyx mori* cell.

17. (Original) The transformed cell of claim 13, wherein the cell is a plant cell.

18. (Original) The transformed cell of claim 13, wherein the cell is a yeast cell.

19. (Original) The transformed cell of claim 13, wherein the nucleic acid encodes a polypeptide having a sequence as set forth in SEQ ID NO:2.

20.-43. (Canceled)

44. (Currently amended) An array comprising a nucleic acid comprising a sequence having at least 95% identity to SEQ ID NO: 1, wherein the nucleic acid encodes a polypeptide including therein at least one of: (1) a domain having the function of the BIR1 domain and (2) a domain having the function of the RING domain, the polypeptide inhibiting the activity of a caspase.

45. (Canceled)

46. (Currently amended) A method of making a recombinant polypeptide comprising expressing a nucleic acid comprising a sequence having at least 95% sequence identity to SEQ ID NO: 1, wherein the nucleic acid encodes a polypeptide including therein at least one of: (1) a domain having the function of the BIR1 domain and (2) a domain having the function of the RING domain, the polypeptide inhibiting the activity of a caspase.

47.-69. (Cancelled).

Please add the following new claims, claims 70-96:

70. (New) The isolated or recombinant nucleic acid of claim 1, wherein the nucleic acid encodes a polypeptide including therein both a domain having the function of the BIR1 domain and a domain having the function of the RING domain.

71. (New) The isolated or recombinant nucleic acid of claim 70 wherein the nucleic acid encodes a polypeptide further including therein a domain having the function of the BIR2 domain.

72. (New) The isolated or recombinant nucleic acid of claim 71 wherein the domain having the function of the BIR1 domain encoded by the nucleic acid has the amino acid sequence of residues 74 to 140 of SEQ ID NO:2 or a sequence related to residues 74 to 140 of SEQ ID NO:2 by one or more conservative amino acid substitutions, the domain having the function of the BIR2 domain encoded by the nucleic acid has the amino acid sequence of residues 182 to 249 of SEQ ID NO:2 or a sequence related to residues 182 to 249 of SEQ ID NO:2 by one or more conservative amino acid substitutions, and the domain having the function of the RING domain encoded by the nucleic acid has the amino acid sequence of residues 298 to 314 of SEQ ID NO:2 or a sequence related to residues 298 to 314 of SEQ ID NO:2 by one or more conservative amino acid substitutions.

73. (New) The isolated or recombinant nucleic acid of claim 72 wherein the domain having the function of the BIR1 domain encoded by the nucleic acid has the amino acid sequence of residues 74 to 140 of SEQ ID NO:2, the domain having the function of the BIR2 domain encoded by the nucleic acid has the amino acid sequence of residues 182 to 249 of SEQ ID NO:2, and the domain having the function of the RING domain encoded by the nucleic acid has the amino acid sequence of residues 298 to 314 of SEQ ID NO:2.

74. (New) The expression cassette of claim 9, wherein the nucleic acid comprises a nucleic acid sequence as set forth in SEQ ID NO:1.

75. (New) The expression cassette of claim 9, wherein the nucleic acid encodes a polypeptide including therein both a domain having the function of the BIR1 domain and a domain having the function of the RING domain.

76. (New) The expression cassette of claim 75, wherein the nucleic acid encodes a polypeptide further including therein a domain having the function of the BIR2 domain.

77. (New) The expression cassette of claim 76, wherein the domain having the function of the BIR1 domain encoded by the nucleic acid has the amino acid sequence of residues 74 to 140 of SEQ ID NO:2 or a sequence related to residues 74 to 140 of SEQ ID NO:2 by one or more conservative amino acid substitutions, the domain having the function of the BIR2 domain encoded by the nucleic acid has the amino acid sequence of residues 182 to 249 of SEQ ID NO:2 or a sequence related to residues 182 to 249 of SEQ ID NO:2 by one or more conservative amino acid substitutions, and the domain having the function of the RING domain encoded by the nucleic acid has the amino acid sequence of residues 298 to 314 of SEQ ID NO:2 or a sequence related to residues 298 to 314 of SEQ ID NO:2 by one or more conservative amino acid substitutions.

78. (New) The expression cassette of claim 77, wherein the domain having the function of the BIR1 domain encoded by the nucleic acid has the amino acid sequence of residues 74 to 140 of SEQ ID NO:2, the domain having the function of the BIR2 domain encoded by the nucleic acid has the amino acid sequence of residues 182 to 249 of SEQ ID NO:2, and the domain having the function of the RING domain encoded by the nucleic acid has the amino acid sequence of residues 298 to 314 of SEQ ID NO:2.

79. (New) The transformed cell of claim 13, wherein the nucleic acid comprises a nucleic acid sequence as set forth in SEQ ID NO: 1.

80. (New) The transformed cell of claim 13, wherein the nucleic acid encodes a polypeptide including therein both a domain having the function of the BIR1 domain and a domain having the function of the RING domain.

81. (New) The transformed cell of claim 80, wherein the nucleic acid encodes a polypeptide further including therein a domain having the function of the BIR2 domain.

82. (New) The transformed cell of claim 81, wherein the domain having the function of the BIR1 domain encoded by the nucleic acid has the amino acid sequence of residues 74 to 140 of SEQ ID NO:2 or a sequence related to residues 74 to 140 of SEQ ID NO:2 by one or more conservative amino acid substitutions, the domain having the function of the BIR2 domain encoded by the nucleic acid has the amino acid sequence of residues 182 to 249 of SEQ ID NO:2 or a sequence related to residues 182 to 249 of SEQ ID NO:2 by one or more conservative amino acid substitutions, and the domain having the function of the RING domain encoded by the nucleic acid has the amino acid sequence of residues 298 to 314 of SEQ ID NO:2 or a sequence related to residues 298 to 314 of SEQ ID NO:2 by one or more conservative amino acid substitutions.

83. (New) The transformed cell of claim 82, wherein the domain having the function of the BIR1 domain encoded by the nucleic acid has the amino acid sequence of residues 74 to 140 of SEQ ID NO:2, the domain having the function of the BIR2 domain encoded by the nucleic acid has the amino acid sequence of residues 182 to 249 of SEQ ID NO:2, and the domain having the function of the RING domain encoded by the nucleic acid has the amino acid sequence of residues 298 to 314 of SEQ ID NO:2.

84. (New) The array of claim 44, wherein the nucleic acid encodes a polypeptide having a sequence as set forth in SEQ ID NO:2.

85. (New) The array of claim 84, wherein the nucleic acid comprises a nucleic acid sequence as set forth in SEQ ID NO: 1.

86. (New) The array of claim 44, wherein the nucleic acid encodes a polypeptide including therein both a domain having the function of the BIR1 domain and a domain having the function of the RING domain.

87. (New) The array of claim 86, wherein the nucleic acid encodes a polypeptide further including therein a domain having the function of the BIR2 domain.

88. (New) The array of claim 87, wherein the domain having the function of the BIR1 domain encoded by the nucleic acid has the amino acid sequence of residues 74 to 140 of SEQ ID NO:2 or a sequence related to residues 74 to 140 of SEQ ID NO:2 by one or more conservative amino acid substitutions, the domain having the function of the BIR2 domain encoded by the nucleic acid has the amino acid sequence of residues 182 to 249 of SEQ ID NO:2 or a sequence related to residues 182 to 249 of SEQ ID NO:2 by one or more

conservative amino acid substitutions, and the domain having the function of the RING domain encoded by the nucleic acid has the amino acid sequence of residues 298 to 314 of SEQ ID NO:2 or a sequence related to residues 298 to 314 of SEQ ID NO:2 by one or more conservative amino acid substitutions.

89. (New) The array of claim 88, wherein the domain having the function of the BIR1 domain encoded by the nucleic acid has the amino acid sequence of residues 74 to 140 of SEQ ID NO:2, the domain having the function of the BIR2 domain encoded by the nucleic acid has the amino acid sequence of residues 182 to 249 of SEQ ID NO:2, and the domain having the function of the RING domain encoded by the nucleic acid has the amino acid sequence of residues 298 to 314 of SEQ ID NO:2.

90. (New) The method of making a recombinant polypeptide of claim 46, wherein the nucleic acid encodes a polypeptide having a sequence as set forth in SEQ ID NO:2.

91. (New) The method of making a recombinant polypeptide of claim 90, wherein the nucleic acid comprises a nucleic acid sequence as set forth in SEQ ID NO: 1.

92. (New) The method of making a recombinant polypeptide of claim 46, wherein the nucleic acid encodes a polypeptide including therein both a domain having the function of the BIR1 domain and a domain having the function of the RING domain.

93. (New) The method of making a recombinant polypeptide of claim 92, wherein the nucleic acid encodes a polypeptide further including therein a domain having the function of the BIR2 domain.

94. (New) The method of making a recombinant polypeptide of claim 93, wherein the domain having the function of the BIR1 domain encoded by the nucleic acid has the amino acid sequence of residues 74 to 140 of SEQ ID NO:2 or a sequence related to residues 74 to 140 of SEQ ID NO:2 by one or more conservative amino acid substitutions, the domain having the function of the BIR2 domain encoded by the nucleic acid has the amino acid sequence of residues 182 to 249 of SEQ ID NO:2 or a sequence related to residues 182 to 249 of SEQ ID NO:2 by one or more conservative amino acid substitutions, and the domain having the function of the RING domain encoded by the nucleic acid has the amino acid sequence of residues 298 to 314 of SEQ ID NO:2 or a sequence related to residues 298 to 314 of SEQ ID NO:2 by one or more conservative amino acid substitutions.

95. (New) The method of making a recombinant polypeptide of claim 94, wherein the domain having the function of the BIR1 domain encoded by the nucleic acid has the amino acid sequence of residues 74 to 140 of SEQ ID NO:2, the domain having the function of the BIR2 domain encoded by the nucleic acid has the amino acid sequence of residues 182 to 249 of SEQ ID NO:2, and the domain having the function of the RING domain encoded by the nucleic acid has the amino acid sequence of residues 298 to 314 of SEQ ID NO:2.

96. (New) An expression cassette comprising at least one nucleic acid operably linked to a promoter, wherein the nucleic acid encodes a polypeptide having a sequence as set forth in SEQ ID NO:2.